Claims

1. A method of controlling media cockle, the method comprising:

(a) providing a printzone between an inkjet and a platen, the printzone having an upstream end and a downstream end relative to a direction of media advancement through the printzone, and wherein the platen has an upper surface spaced from the inkjet and plural vacuum zones arranged side-by-side across the platen, each vacuum zone defining a recess in the platen having a closed end at the upstream end of the platen and an open end at the downstream end of the platen, and wherein each vacuum zone further defines a first floor level at the upstream end and a second floor level at the downstream end, the distance from the first floor level to the platen upper surface is greater than the distance from the second floor level to the platen upper surface;

(b) advancing media through the printzone;

(c) applying ink to the media; and

(d) applying suction to the surface of the media facing the platen to draw the media away from the inkjet.

2. The method of claim 1 wherein the step of applying suction to the surface of the media includes the step of inducing a flow of air through the open end of each vacuum zone and through a port in each vacuum zone at the upstream end.

3. A holddown for hard copy device, comprising:

means for interacting with media in a media interaction zone;

means for advancing media through said media interaction zone;

platen means for supporting said media in said media interaction zone, said platen means having an upper surface including a plurality of vacuum

zones in an array extending across said upper surface, each vacuum zone defining a recess in the platen having a closed end at the upstream end of the platen and an open end at the downstream end of the platen, and wherein each vacuum zone further defines a first floor at the upstream end and a second floor at the downstream end, wherein the distance from the first floor to the platen upper surface is greater than the distance from the second floor to the platen upper surface; and

vacuum means fluidly coupled to said ports for applying vacuum to said media.

4. The holddown according to claim 3 wherein the platen means further comprises each vacuum zone having a back wall and opposed side walls wherein the back wall and opposed side walls having upper surfaces coplanar with the upper surface of said platen.

5. The holddown according to claim 3 wherein the first floor is planar.

6. The holddown according to claim 5 wherein the second floor is planar.

7. The holddown according to claim 6 wherein each vacuum zone comprises a step between the first floor and the second floor.

8. The holddown according to claim 7 wherein the vacuum means is configured for inducing airflow from said open ends, into said vacuum zones and through said ports.

9. A vacuum holddown for a hard copy apparatus, comprising:

a platen having an upper surface and an upstream end and a downstream end relative to a direction of media travel;

an inkjet operatively positioned relative to the platen and spaced apart from the upper surface, the inkjet and the platen defining a printzone therebetween;

multiple vacuum zones in the platen, each vacuum zone comprising a recess in the upper surface opening to the downstream end, wherein each recess defines a first floor portion toward the upstream end and a second floor portion toward the downstream end, the first and second floor portions having a step therebetween, wherein the distance from the first floor portion to the platen upper surface is greater than the distance from the second floor portion to the platen upper surface;

a port in each vacuum zone;

a vacuum source fluidly communicating with each port.

10. The vacuum holddown according to claim 9 wherein the platen further comprises said vacuum zones arranged in a side-by-side array and wherein each of said vacuum zones is further defined by a back wall and opposed side walls having upper surfaces that are coplanar with the platen upper surface.

11. The vacuum holddown according to claim 10 wherein the first floor portion and the second floor portion are planar.

12. The holddown according to claim 11 including a step between the first floor portion and the second floor portion.

13. A vacuum holddown for a hard copy apparatus, comprising:

a platen having an upper surface and an upstream end relative to a direction of media travel and a downstream end;

an inkjet operatively positioned relative to the platen and spaced apart from the upper surface, the inkjet and the platen defining a printzone therebetween;

multiple vacuum zones arranged in a side by side array in the platen, each vacuum zone comprising a rectangular recess in the upper surface having a planar floor bordered by a back wall, and opposed side walls

extending linearly to the open end, the back wall and side walls having upper surfaces coplanar with the platen upper surface;

a port in each vacuum zone and a vacuum source communicating with each port.

14. A method of controlling ink-induced cockle in printed media, the method comprising:

(a) advancing media through a printzone between an inkjet and a platen, the media advancing through the printzone from an upstream end toward a downstream end;

(b) applying ink to the media in the printzone;

(c) inducing a vacuum to draw the media away from the inkjet by creating a flow of air between the media and the platen, wherein the platen has an upper surface and plural vacuum zones arranged in a side-by-side array, each vacuum zone defining a recess in the platen having a closed end and open end and the air flows from the open end toward the closed end, and wherein each vacuum zone further defines a first floor level at the upstream end and a second floor level at the downstream end, and wherein the vacuum applied to the media at the upstream end is greater than the vacuum applied to the media at the downstream end.

15. The method of claim 14 wherein the step of applying greater vacuum to the media at the upstream end than the downstream end includes the step of causing air to flow over a step in each vacuum zone between the first floor level and the second floor level, wherein the distance from the first floor level to the platen upper surface is greater than the distance from the second floor level to the platen upper surface.

16. The method of claim 15 wherein the step of applying ink to the media occurs only upstream of the step.

17. A method of controlling ink-induced cockle in printed media, the method comprising:

(a) advancing media through a printzone between an inkjet and a platen, the media advancing through the printzone from an upstream end toward a downstream end;

(b) applying ink to the media in the printzone;

(c) inducing vacuum in a plurality of vacuum zones in the platen, wherein in each vacuum zone the level of vacuum force increases in the direction from the downstream end to the upstream end.

18. The method of claim 17 wherein the vacuum zones are arranged in a side-by-side array and each vacuum zone defines a rectangular recess having a closed end and open end and a step therebetween, and wherein ink is applied to the media only upstream of the step.

19. The method of claim 18 wherein inducing a vacuum includes causing air to flow from the downstream end of each vacuum zone over the step toward the upstream end, and wherein the level of vacuum upstream of the step is greater than the level of vacuum applied to the media downstream of the step.

20. The method of claim 19 wherein the vacuum causes the media stabilizes the media on the platen.